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TO: [redacted]

DATE: 22 December 1956

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FROM: [redacted]

SUBJECT: Engineering Report, Configuration 73-C, Serial No. 1
PTF no assignment number

The initial flight test of 73-C No. 1 Configuration occured December 21, 1956 the purposesof which were to (1) test the overall system under actual flight conditions and (2) obtain preliminary information as to the characteristics of the optics under flight conditions.

The operation of the Configuration was set for vertical exposures at the rate of 1 per 4 seconds, and a fixed IMC of 12 milliradians per second.

Post-flight of configuration indicated a malfunction in the cager circuit. Laboratory inspection revealed a condition of welded contacts on the relay controlling the cycling of the cager motors. Since dynamic breaking is employed in this operation, the d.c. power would then be shorted to ground. This explains the circuit breaker being actuated.

The film drive transported 1900 feet of film on both sides and was operative on post-flight. No photographs were received as a result of this flight. Physical inspection of the shutter mechanism revealed a galled condition which indicated a possible jam that prevented shutter motor rotation. The circuit breaker protecting the supply voltage to the shutter motor was also blown. This substantiates the plausibility of a shutter jam malfunction.

All other functions operating at this time, were operating satisfactorily on post flight.

The contacts on the K-13 Relay, cager control relay, will be by-passed with a capaciter to reduce arcing and the shutter assembly will be re-worked to remove possible causes of jams.

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